



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,366	10/17/2001	Serge Jacques Fayeulle	STL10198/40046.162USU1	7773

7590 11/01/2005
David K. Lucente
Seagate Technology LLC
Intellectual Property Dept. - COL2LGL
389 Disc Drive
Longmont, CO 80503

EXAMINER

TZENG, FRED

ART UNIT	PAPER NUMBER
----------	--------------

2651

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,366

Applicant(s)

FAYEULLE, SERGE JACQUES

Examiner

Fred Tzeng

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 13-17, 19 and 25-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 13-17, 19, 25-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in responsive to the amendment filed on May 09, 2005. Claims 1-7, 13-17, 19, 25-34 are now pending with claims 1-7, 13-17, 19, 25-28 being amended and claims 8-12, 18, 20-24 canceled and claims 29-34 added newly.
2. The objection to claim 12 is withdrawn due to the amendment filed on May 09, 2005.
3. The objection to claim 24 is withdrawn due to the amendment filed on May 09, 2005.

Response to Arguments

4. Applicant's arguments filed on May 09, 2005 have been fully considered but they are not persuasive.
5. In the remarks, applicant made two main points.

The first argument being that, "Nowhere does Boutaghou disclose the acceleration rates of the first and second rotational velocities disclosed therein. So it is unknown whether the acceleration rates of the first and second rotational velocities disclosed in Boutaghou are achieved by first and second rotational velocities disclosed in Boutaghou are achieved by first and second acceleration rates (claim 1) or multiple acceleration rates (claim 24)". This argument is not persuasive. In column 4 lines 2-9, Boutaghou teaches accelerating the disc rotation velocity from the slower first velocities to the second faster velocity by acceleration rate or rates.

The second argument being that, "Claim 13 features that as the storage disc rotates at one of the group consisting of the first predetermined rotational velocity and the threshold rotational velocity, moving a transducer from a landing zone to a region of the storage disc. Boutaghou discloses unloading from a ramp. A ramp is not identical to a landing zone. Therefore, this feature of claim 13 is not identically shown. As a result, claim 13 is not anticipated and is allowable". This argument is not persuasive. A ramp may not be identical to a landing zone, but it is certainly functioned as a landing zone for a transducer to land on for parking.

This rationale makes the cited reference related to the applicant's claimed inventions.

Claim Objections

6. Claims 13-17, 19 are objected to because of the following informalities:
Apparatus claim language and method claim language are improperly mixed together.
Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

Art Unit: 2651

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3, 6, 7, 13-15, 19, 25-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Boutaghou et al (USPN 6,243,222), hereafter as Boutaghou.

9. The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1, 29-31, Boutaghou discloses a method comprising steps of: (a) accelerating a medium at a first acceleration rate to a first velocity (see column 9 lines 9-20; i.e., accelerating the disk 134 to the first rotational disk velocity at the range of 200 RPM – 300 RPM); (b) subsequently accelerating the medium at a second acceleration rate to a second velocity (see column 9 lines 17-25; i.e., accelerating the disk 134 at the second acceleration rate to a threshold rotational velocity in the range of 200 RPM to 300 RPM or 150 RPM – 1000 RPM); and (c) moving a transducer over the medium from a parked position responsive to a one of the first velocity and second velocity (see column 4 lines 2-9; i.e., the transducer attached to the slider is moved from the ramp to a position on the disk surface in responsive to the first and second rotational velocities).

Regarding claim 2, Boutaghou discloses that the second velocity is a final rotational velocity creating and maintaining an air bearing as the transducer radially

Art Unit: 2651

traverses the medium between an inner diameter and an outer diameter (see column 9 lines 12-14, 20-30, i.e., at the second rotational velocity or the final rotational velocity, the transducer radially transverses across the disk between an inner diameter and an outer diameter, and an air bearings being maintained here too).

Regarding claim 3, Boutaghou discloses that the steps of: (i) accelerating the medium at at least one more acceleration rate between accelerating steps (a) and (b) (see column 9 lines 17-20, i.e., the disk 134 being accelerated in the range of 200 RPM – 300 RPM or 150 RPM – 1000 RPM).

Regarding claim 6, Boutaghou discloses that the first velocity is an early exit velocity creating an air bearing as the transducer exists the landing zone (see column 9 lines 12-25, i.e., being the early exit velocity, at the first rotational velocity, the transducer moves from ramp 136 to disk 134 surface, and an air bearing is also created and maintained here).

Regarding claim 7, Boutaghou discloses a further step of: (d) accelerating the medium at a third acceleration rate between the first and second acceleration rates (see column 9 lines 25-30, i.e., the disk 134 being accelerated at a third acceleration rate to the final second rotational velocity as the transducer positioned over disk surface locating data anywhere on the disk surface including outer diameter area).

Regarding claims 13, 32-34, Boutaghou discloses an apparatus including circuitry and executable program instructions that are configured to perform (see column 4 lines 2-9 or figure 9), the method comprising steps of: (a) accelerating a storage disc to a first rotational velocity (see column 9 lines 9-20; i.e., accelerating the

Art Unit: 2651

disk 134 from its initial rotational velocity to the first rotational disk velocity at the range of 200 RPM – 300 RPM); (b) accelerating the storage disc after achieving the first rotational velocity to a second rotational velocity (see column 9 lines 17-25; i.e., accelerating the disk 134 at the second acceleration rate from first rotational velocity to a threshold rotational velocity in the range of 200 RPM to 300 RPM or 150 RPM – 1000 RPM); and (c) as the storage disc rotates at a one of the group consisting of the first rotational velocity and the second rotational velocity, moving a transducer from a landing zone to a region of the storage disc (see column 9 lines 12-14, 20-25, i.e., once the threshold rotational speed of the disk 134 is achieved, the transducer is moved from the ramp 136 to disk 134 surface, the threshold first rotational velocity generates a cushion of air between the air bearing surface 500 of the slider 126 and the disk 134).

Regarding claim 14, Boutaghou discloses that the second rotational velocity is a final rotational velocity creating and maintaining an air bearing as the transducer radially traverses across the disc between an inner diameter and an outer diameter (see column 9 lines 12-14, 20-30, i.e., at the threshold second rotational velocity or the final rotational velocity, the transducer radially transverses across the disk between an inner diameter and an outer diameter, and an air bearings being maintained here too).

Regarding claim 15, Boutaghou discloses that accelerating the storage disc to the first rotational velocity at first acceleration rate from accelerating the storage disc to the second rotation velocity at a second acceleration rates (see column 9 lines 17-30, i.e., the disk 134 being accelerated by one or more acceleration rates from 200 RPM –

Art Unit: 2651

300 RPM or 150 RPM – 1000 RPM until the threshold second rotational velocity achieved).

Regarding claim 19, Boutaghou discloses a further step of: (d) accelerating the storage disc at a third acceleration rate between the first and second acceleration rates (see column 9 lines 25-30, i.e., the disk 134 being accelerated at a third acceleration rate to the final second rotational velocity as the transducer positioned over disk surface locating data anywhere on the disk surface including outer diameter area).

Regarding claim 25, Boutaghou discloses an apparatus (see column 3 line 55) comprising: a transducer attached to an actuator arm (see column 5 lines 18-24, i.e., the transducer 150 attached to the actuator arm 123) and parkable on a landing zone on a surface of a medium (see column 5 lines 49-60, column 6 lines 16-18), the transducer being operable to move over the surface of the medium as the medium reaches a desired velocity (see column 9 lines 20-30); and circuitry for accelerating the medium at multiple acceleration rates to corresponding velocities, wherein one of the velocities is the desired velocity (see column 9 lines 25-30 or column 10 lines 22-24, 34-37, i.e., the spindle motor controller).

Regarding claim 26, Boutaghou discloses the transducer is moved from the landing zone over the medium responsive to the desired velocity (see column 5 lines 33-36 or column 6 lines 22-27 or column 9 lines 21-25, i.e., the load tang or the actuator controller).

Regarding claim 27, Boutaghou discloses that the threshold rotational velocity is a final rotational velocity creating and maintaining an air bearing between the transducer

Art Unit: 2651

and the surface of the disc as the transducer radially traverses across the disc between an inner diameter and an outer diameter (see column 9 lines 11-30, i.e., the second rotational velocity being the threshold rotational velocity and the final rotational velocity and an air bearing being maintained here too).

Regarding claim 28, Boutaghou discloses that the threshold rotational velocity is an early exit velocity creating an air bearing between the transducer and the surface of the disc as the transducer exits the landing zone and accesses the data region (see column 9 lines 11-25, i.e., at the first rotational velocity, the transducer exists the ramp and accesses the data region on the disk surface).

Allowable Subject Matter

10. Claims 4, 5, 16, 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

Claims 4, 5, 16, 17 are allowable over the prior art of record because none of the prior art of record teaches or fairly suggests a multi-phase acceleration system or method for increasing rotational velocity of a data storage disc in a disk drive comprising accelerating the disk at multiple acceleration rates based on predetermined time periods between an initial time parameter (T_i) and a final time parameter (T_f), wherein the disk may be accelerated at a first acceleration rate from time (T_i) to a predefined time

Art Unit: 2651

parameter (T_n), and accelerated at a second acceleration rate from time (T_n) to the time (T_f). Time (T_f) corresponding to a time that the rotational velocity of the disk has reached a velocity sufficient to create and maintain an air bearing between a slider of the head and the surface of the disk as the head radially traverses across the disk surface between the inner diameter and the outer diameter.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

14. Any inquiry concerning this communication from the examiner should be directed to Fred Tzeng whose telephone number is 571-272-7565. The examiner can normally be reached on weekdays from 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8400 for regular communications and 571-273-7565 for After Final communications.

15. Informal regarding the status of an application may be obtained from the Patent Application Information Retrieval (**PAIR**) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred F. Tzeng

Fit

October 26, 2005


DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600